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EXAMINER	
WOLDEKIDAN, HIBRET ASNAKE	

ART UNIT	PAPER NUMBER
2613	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/568,237	RODRIGO, MIGUEL DE VEGA	
	Examiner	Art Unit	
	Hibret A. Woldekidan	2613	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *02/14/06*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *10-21* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *10-21* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *14 February 2006* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *02/14/06,08/14/08*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Drawings

Figures 1 and 2 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1,16 and 20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The phrase "can be" in claim 1,16,20 is indefinite because it is not a positive recitation. Appropriate correction is required.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 10-13,15-17,19,20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Oh et al.(US 7,280,478) in view of Kim et al. (7,190,898) further in view of Poppe et al.(US 2004/0151115).

Considering Claim 10 Oh discloses a method for aggregating incoming packets into optical bursts in an edge node of an Optical Burst Switch Network**(See Col. 3 lines 11-16 i.e. a method of aggregating the incoming packets into a data burst)**, comprising: storing the incoming packets to generate an optical burst**(See Col. 3 lines 11-16 and 30-32, fig. 3 i.e. a packet assembler(10a) for assembling multiple IP packets into optical burst)**; and sending the optical burst with the aggregated packets when a transition is indicated **(See Col. 6 line 64-Col. 7 line 6,fig. 3a,6 i.e. an offset time for indicating arrival time of the data burst and for determining departing time of the data burst in the optical burst switching)**, wherein the a binary digit having the first value indicates the transition between optical bursts, whereby a lower blocking probability in the optical switches is provided **(See Col. 7 lines 27-34, fig. 8 i.e. a method of providing a lower blocking probability in optical burst switching network)**.

Oh does not specifically disclose the lower blocking probability can be calculated with an Erlang-B formula, thus providing predictability of the throughput.

Kim teaches obtaining lower blocking probability using Erlang-B formula,thus providing predictability of the throughput **(See Col. 7 lines 34-47 i.e. using Erlang-B formula for calculating the lower blocking probability)**.

It would have been obvious to one of ordinary skill in the art at the time the

invention was made to modify the invention of Oh, and apply Erlang-B formula to calculate lower blocking probability, as taught by Kim, thus providing an efficient data transmission system in OBS network by utilizing the blocking loss rate using using Erlang-B formula, as discussed by Kim **(Col. 2 lines 32-37)**.

Oh and Kim disclose a Packet classifier(C) associating incoming packets with the routing information and **(See Oh: Col. 3 lines 13-29, fig. 3)** and using a discrete type burst size decision algorithm for determining the burst size and adjusting the size accordingly **(See OH: Col. 8 lines 7-22, fig. 11 i.e. fig. 11 illustrates that a more uniform burst size decision algorithm for determining the burst size with a cross-over count number. if the cross-over count number is below a certain predetermined lower bound, the burst size decreased by one step. If the cross-over count number is above a certain predetermined upper bound, the step increased by one step)**.

Oh and Kim do not specifically disclose associating each incoming packet with a generated random binary digit with a probability for a first and a second value of the binary digit.

Poppe teaches associating each incoming packet with a generated random binary digit with a probability for a first and a second value of the binary digit **(See Paragraph 53,54,80, fig. 3 i.e. The Programming unit for associating the incoming packets(BHP) with a random binary digit generated number using a two state random generator(RAND) with a probability of high and low associated with 0 and 1).**

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the invention of Oh and Kim, and associate each incoming packet with a generated random binary digit with a probability for a first and a second value of the binary digit, as taught by Poppe, thus providing an efficient data transmission system in OBS network by controlling data transmission conjunction using random number generator, as discussed by Poppe **(Paragraph 78)**.

Considering Claim 11 Oh discloses the method according to claim 10, wherein the transition is a beginning of a new optical burst**(See Col. 4 lines 16-26 and lines 57-59, fig. 5 i.e. an offset time as a transition to a beginning of a new optical burst)**.

Considering Claim 12 Oh discloses the method according to claim 10, wherein the transition is an end of the new optical burst**(See Col. 4 lines 16-26 and lines 57-59, fig. 5 i.e. an offset time as a transition to an end of a new optical burst)**.

Considering Claim 13 Oh discloses the method according to claim 10, wherein the optical burst is sent through the Optical Burst Switched Network**(See Col. 3 lines 11-16, Col. 11 lines 7-12, fig. 3 i.e. a method of transmitting data burst through optical burst switching network)**.

Considering Claim 15 Oh discloses the method according to claim 10, wherein IP packets are used as incoming packets**(See fig. 3 i.e. incoming IP packets stream)**.

Considering Claim 16 Oh discloses a method for aggregating incoming packets into optical bursts in an edge node of an Optical Burst Switched Network**(See Col. 3 lines 11-16 i.e. a method of aggregating the incoming packets into a data burst)**, storing the incoming packets to generate an optical burst**(See Col. 3 lines 11-16 and**

30-32, fig. 3 i.e. a packet assembler(10a) for assembling multiple IP packets into optical burst); generating a random binary digit with a probability for a first and a second value of the binary digit**(See Col. 3 lines 13-29, fig. 3 i.e. a Packet classifier(C) associating incoming packets with the routing information and classifying assembled burst data based on the IP traffic)**; and sending the optical burst when the random binary digit is a first value**(See Col. 6 line 64-Col. 7line 6,fig. 3a,6 i.e. an offset time for indicating arrival time of the data burst and for determining departing time of the data burst in the optical burst switching)**, whereby a lower blocking probability in the optical switches is provided**(See Col. 7 lines 27-34, fig. 8 i.e. a method of providing a lower blocking probability in optical burst switching network).**

Oh does not specifically disclose the lower blocking probability can be calculated with an Erlang-B formula, thus providing predictability of the throughput.

Kim teaches obtaining lower blocking probability using Erlang-B formula, thus providing predictability of the throughput **(See Col. 7 lines 34-47 i.e. using Erlang-B formula for calculating the lower blocking probability)**.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the invention of Oh, and apply Erlang-B formula to calculate lower blocking probability, as taught by Kim, thus providing an efficient data transmission system in OBS network by utilizing the blocking loss rate using Erlang-B formula, as discussed by Kim **(Col. 2 lines 32-37)**.

Oh and Kim do not specifically disclose a random generator for generating a random binary digital numbers

Poppe teaches a random generator for generating a random binary digital numbers generating a random binary digit with a probability for a first and a second value of the binary digit **(See Paragraph 53,54,80, fig. 3 i.e. a two-state random generator).**

Oh and Kim disclose a Packet classifier(C) associating incoming packets with the routing information and **(See Oh: Col. 3 lines 13-29, fig. 3)** and using a discrete type burst size decision algorithm for determining the burst size and adjusting the size accordingly **(See OH: Col. 8 lines 7-22, fig. 11 i.e. fig. 11 illustrates that a more uniform burst size decision algorithm for determining the burst size with a cross-over count number. if the cross-over count number is below a certain predetermined lower bound, the burst size decreased by one step. If the cross-over count number is above a certain predetermined upper bound, the step increased by one step)**.

Oh and Kim do not specifically disclose a random generator for generating a random binary digital numbers generating a random binary digit with a probability for a first and a second value of the binary digit.

Poppe teaches a random generator for generating a random binary digital numbers generating a random binary digit with a probability for a first and a second value of the binary digit **(See Paragraph 53,54,80, fig. 3 i.e. The Programming unit for associating the incoming packets (BHP) with a random binary digit generated**

number using a two state random generator(RAND) with a probability of high and low associated with 0 and 1).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the invention of Oh and Kim, and have a random generator for generating a random binary digital numbers generating a random binary digit with a probability for a first and a second value of the binary digit, as taught by Poppe, thus providing an efficient data transmission system in OBS network by controlling data transmission conjunction using random number generator, as discussed by Poppe **(Paragraph 78)**.

Considering Claim 17 Oh discloses the method according to claim 16, wherein the optical burst is sent through the Optical Burst Switched Network**(See Col. 3 lines 11-16, Col. 11 lines 7-12, fig. 3 i.e. a method of transmitting data burst through optical burst switching network)**.

Considering Claim 19 Oh discloses the method according to claim 16, wherein IP packets are used as incoming packets**(See fig. 3 i.e. incoming IP packets stream)**.

Considering Claim 20 Oh discloses an edge node apparatus for an Optical Burst Switched Network for aggregating incoming packets into optical bursts**(See Col. 3 lines 11-16 i.e. a method of aggregating the incoming packets into a data burst)**, comprising: a buffer to accumulate the incoming packets as an optical burst**(See Col. 3 lines 11-16 and 30-32, fig. 3 i.e. a packet assembler(10a) for assembling multiple IP packets into optical burst)**; and a random generator to generate a binary digit with a probability for a first and second value of the binary digit, such that each incoming

packet is associated with a generated binary digit, wherein the first value indicates a transition between optical bursts, wherein the optical burst with the aggregated packets is send when a transition is indicated, whereby a lower blocking probability in the optical switches is provided.

Oh does not specifically disclose the lower blocking probability can be calculated with an Erlang-B formula, thus providing predictability of the throughput.

Kim teaches obtaining lower blocking probability using Erlang-B formula, thus providing predictability of the throughput **(See Col. 7 lines 34-47 i.e. using Erlang-B formula for calculating the lower blocking probability)**.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the invention of Oh, and apply Erlang-B formula to calculate lower blocking probability, as taught by Kim, thus providing an efficient data transmission system in OBS network by utilizing the blocking loss rate using Erlang-B formula, as discussed by Kim **(Col. 2 lines 32-37)**.

Oh and Kim disclose a Packet classifier(C) associating incoming packets with the routing information and **(See Oh: Col. 3 lines 13-29, fig. 3)** and using a discrete type burst size decision algorithm for determining the burst size and adjusting the size accordingly **(See OH: Col. 8 lines 7-22, fig. 11 i.e. fig. 11 illustrates that a more uniform burst size decision algorithm for determining the burst size with a cross-over count number. if the cross-over count number is below a certain predetermined lower bound, the burst size decreased by one step. If the cross-**

over count number is above a certain predetermined upper bound, the step increased by one step).

Oh and Kim do not specifically disclose a random generator to generate a binary digit with a probability for a first and second value of the binary digit, such that each incoming packet is associated with a generated binary digit, wherein the first value indicates a transition between optical bursts, wherein the optical burst with the aggregated packets is send when a transition is indicated, whereby a lower blocking probability in the optical switches is provided.

Poppe teaches a random a random generator to generate a binary digit with a probability for a first and second value of the binary digit, such that each incoming packet is associated with a generated binary digit, wherein the first value indicates a transition between optical bursts, wherein the optical burst with the aggregated packets is send when a transition is indicated, whereby a lower blocking probability in the optical switches is provided**(See Paragraph 53,54,80, fig. 3 i.e. The Programming unit for associating the incoming packets(BHP) with a random binary digit generated number using a two state random generator(RAND) with a probability of high and low associated with 0 and 1)**.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the invention of Oh and Kim, and apply a random generator to generate a binary digit with a probability for a first and second value of the binary digit, such that each incoming packet is associated with a generated binary digit, wherein the first value indicates a transition between optical bursts, wherein the optical

burst with the aggregated packets is send when a transition is indicated, whereby a lower blocking probability in the optical switches is provided, as taught by Poppe, thus providing an efficient data transmission system in OBS network by controlling data transmission conjunction using random number generator, as discussed by Poppe **(Paragraph 78)**.

3. Claims 14,18 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Oh et al.(US 7,280,478) in view of Kim et al. (7,190,898) further in view of Poppe et al.(US 2004/0151115) further in view of Sajadieh et al.(US 2003/0235192).

Considering Claims 14,18 and 21 Oh,kim and Poppe disclose a random number generator**(See Paragraph 53,54,80, fig. 3 i.e. a two-state random generator)**

Oh,kim and Poppe do not specifically disclose the random binary digit is generated according to a Bernoulli probability distribution.

Sajadieh teaches disclose the random binary digit is generated according to a Bernoulli probability distribution**(See Paragraph 8,32, 31, fig. 3 i.e. a Bernoulli random simulator(80) for generating the Bernoulli random variable that controls the distribution of the incoming packet)**.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the invention of Oh,kim and Pop, and apply the random binary digit to be generated according to a Bernoulli probability distribution, as taught by Sajadieh, thus providing an efficient data transmission system in optical network by deciding data transmission link connection using Bernoulli random variable generator, as discussed by Sajadieh **(Paragraph 8)**.

Conclusions

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hibret A. Woldekidan whose telephone number is (571)270-5145. The examiner can normally be reached on 8-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kenneth Vanderpuye can be reached on 5712723078. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/H. A. W./
Examiner, Art Unit 2613

/Kenneth N Vanderpuye/
Supervisory Patent Examiner, Art Unit 2613